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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/066,552

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Clayton N. Cowgill

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EXAMINER

SELLERS, DANIEL R

ART UNIT

PAPER NUMBER

2615

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/066,552

Applicant(s)

COWGILL ET AL.

Examiner

Daniel R. Sellers

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-25 is/are rejected.
- 7) ☒ Claim(s) 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, with respect to claims 1-11 and 13-21, filed May 30, 2006 have been fully considered but they are not persuasive.
2. Regarding **claim 1**, So teaches a modem, wherein it causes a step down in data rate as necessary (Col. 33, lines 52-54) and included in the pertinent non-cited art, Maxwell et al. (hereinafter Maxwell) teaches that a modem transparently changes speed based on line conditions and transmission needs (abstract). Therefore So, inherently, teaches a processor for determining a bit rate associated with communications from a peripheral device.
3. Regarding **claims 2-3, 5, 7-10, and 21**, see the preceding argument with respect to claim 1. So teaches these features.
4. Regarding **claim 20**, Goldstein does teach a connection method for modems, wherein it is well known that modems allow bi-directional communication (see Maxwell, Col. 1, lines 49-64). Modems also are known to send characters, or known signals, to establish a maximum connection speed, wherein a signal-to-noise ratio (SNR) determines how well the modems can communicate (Maxwell, Col. 2, line 64 - Col. 3, line 4). If the SNR is high, the modems create the fastest connection that is supported by the hardware, but if the SNR is low, the modems connect at a lower bitrate. Goldstein teaches the V.fast (V.34) and the older V.32 protocols, wherein these different protocols have a maximum rate of 28.8 kbps and 14.4 kbps respectively. It is also well known in the art that characters can be composed of tones, wherein a tone defines

Art Unit: 2615

either a binary number or series of binary numbers (i.e. Amplitude Modulation (AM), Phase Modulation (PM), or Quadrature Amplitude Modulation (QAM) can be used in digital communications) (see Maxwell, Col. 3, line 63 - Col. 4, line 31).

5. Regarding **claim 4**, it is well known that there are still modems available on sale in the U.S. that interface with a computer through the serial port using UART. Dabbs, III et al. (USPN 5293484) (hereinafter Dabbs) teaches that a serial port is a UART and teaches that it is the interface between the computer and the modem (Fig. 2 and 3, Col. 4, line 64 - Col. 5, line 9).

6. Regarding **claim 6**, see the preceding argument with respect to claim 1. So inherently teaches, as supported by Maxwell, a processor adapted to determine a bit rate associated with communications from a peripheral device. The combination does teach a processor, wherein it "determines the bit rate associated with communications from the peripheral device by adjusting a receiving bit rate associated with the portable audio player until a known character transmitted by the peripheral device is recognized by the portable audio player." Key teaches that autobaud is used, wherein the proper synchronization of transmission rates is required, and teaches a method of determining the proper bit rate, wherein the bit rate is halved until a match of known signals occurs (Col. 2, lines 5-26).

7. Regarding **claim 11**, see the preceding argument with respect to claims 1 and 6. The combination teaches these features as evidenced by Maxwell.

8. Regarding **claims 13-17**, see the preceding argument with respect to claims 1, 6, and 11. The combination teaches these features as evidenced by Maxwell.

9. Regarding **claim 18**, see the preceding argument with respect to claims 1, 6, and 11. The combination teaches these features as evidenced by Maxwell.
10. Regarding **claim 19**, see the preceding argument with respect to claims 1 and 20. The combination teaches these features as evidenced by Maxwell.

Claim Rejections - 35 USC § 102

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
12. **Claims 1-3, 5, 7-10, and 21** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by So, U.S. Pat. No. 5,909,559.
13. Regarding **claim 1**, So teaches a portable audio device that is a portable audio player (Col. 129, line 22 – Col. 130, line 5). So teaches a computer with various audio output connections (Col. 129, lines 66-67), and a communication port that is bi-directional (Col. 129, lines 52-54). There is a processor which determines the bit rate associated with a modem (Col. 130, lines 41-48 and Col. 33, lines 44-59), wherein the modem is realized through software routines run on the computer's main processor (i.e. a WinModem). The fallback routine is a well known method of negotiating the connection speed between two modems or computers, wherein the speed of the connection falls back to a lower speed if the error rate in the communication link is too high (i.e. the Signal-to-Noise Ratio (SNR) is too low).

Art Unit: 2615

14. Regarding **claim 2**, the further limitation of claim 1, see the preceding argument with respect to claim 1. So teaches a modem connection, wherein the computers are connected by a number of bus lines or telephone wires.

15. Regarding **claim 3**, the further limitation of claim 1, see the preceding argument with respect to claim 1. So teaches that a wireless modem can be used.

16. Regarding **claim 5**, the further limitation of claim 1, see the preceding argument with respect to claim 1. So teaches a processor that controls the modem, which is a transceiver.

17. Regarding **claim 7**, the further limitation of claim 1, see the preceding argument with respect to claim 1. So teaches a portable audio player with a storage device, or a portable computer that inherently has a plurality of storage devices.

18. Regarding **claim 8**, the further limitation of claim 1, see the preceding argument with respect to claim 1. So teaches a portable audio player with a display device, wherein it is inherent that a portable computer has a display for displaying received information from the peripheral device.

19. Regarding **claim 9**, the further limitation of claim 1, see the preceding argument with respect to claim 1. So teaches the use of USB connectors, wherein it is well known that the USB standards supply power to connected peripherals.

20. Regarding **claim 10**, see the preceding argument with respect to claims 1 and 5. So teaches a portable audio player with these features.

21. Regarding **claim 21**, the further limitation of claim 7, see the preceding argument with respect to claims 1 and 7. So teaches a portable audio player which is a portable

Art Unit: 2615

computer, wherein it is inherent that a portable computer can store non-audio data received from a communication port while playing back an audio file. This has been a feature of multi-tasking operating systems, which is used in the portable computer taught by So (Col. 13, line 54 – Col. 14, line 12).

22. **Claim 20** is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Goldstein, U.S. Patent No. 5,317,594.

23. Regarding **claim 20**, see Goldstein

A method for establishing a bi-directional communication link between a host device and a peripheral device, the method comprising:

transmitting a known character from the peripheral device to the host device at a peripheral device bit rate; (Col. 2, lines 15-18)

at the peripheral device, receiving a reply character from the host device at a target bit rate that potentially matches the peripheral device bit rate; and (Col. 2, lines 18-22)

in response the reply character matching a known reply character, confirming the target bit rate as matching the peripheral device bit rate thereby establishing a valid bi-directional communication link between the host device and the peripheral device. (Col. 2, lines 24-27)

Goldstein teaches a method for establishing a bi-directional communication link with these features.

24. **Claim 25** is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Juskiewicz et al., (previously included in pertinent non-cited art) (hereinafter Juskiewicz).

25. Regarding **claim 25**, Juskiewicz teaches a bi-directional communications port (Col. 6, lines 58-67), wherein a bit rate, or sample rate, is determined and adapted to for communication between a portable audio device and a peripheral device (Col. 4, line 50 - Col. 5, line 2, and Col. 8, lines 53-56). Juskiewicz also teaches a remote control (e.g.

a guitar) and a portable audio player (e.g. an amplifier), which communicate bi-directionally with each other (Col. 7, lines 16-36).

Claim Rejections - 35 USC § 103

26. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

27. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over So as applied to claim 1 above and in view of well known art.

28. Regarding **claim 4**, the further limitation of claim 1, see the preceding argument with respect to claim 1. So teaches a serial bus (i.e. a universal asynchronous receiver transmitter (UART)) (Col. 129, lines 58-59) and it is well known that there are still modems available on sale in the U.S. that interface with a computer through the serial port using UART. The office takes Official Notice that a modem can be connected using a UART for the bi-directional communication taught by So. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of So and the well known art for the purpose of providing an external modem to a computer which does not have an internal modem as suggested by So.

29. **Claims 6, 11, and 13-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over So as applied to claim 1 above, and further in view of Key et al., U.S. Patent No. 5,008,902 (hereinafter Key).

30. Regarding **claim 6**, the further limitation of claim 1, see Key

Art Unit: 2615

... wherein the processor determines the bit rate associated with communications from the peripheral device by adjusting a receiving bit rate associated with the portable audio player until a known character transmitted by the peripheral device is recognized by the portable audio player. (Col. 1, lines 61-63 and Col. 2, lines 5-26)

So teaches a portable audio device with the features of claim 1, but fails to teach the adjusting of a receiving bit rate. Key teaches the automatic detection of baud rates using the transmission of known characters in various peripherals (Col. 1, lines 10-14).

It would have been obvious for one of ordinary skill in the art to combine the teachings of So and Key for the purpose of automatically determining the baud rate, or the rate of transmission, of a peripheral device.

31. Regarding **claim 11**, see the preceding argument with respect to claim 6. The combination of So and Key teaches a bi-directional communication link with the features of transmitting known data at one rate and determining the bit rate of a peripheral device by recognizing the known data. The combination does not specifically teach the confirmation of a valid link, however it is well known in the art of communication, that handshake protocols exist to validate communication links.

32. Regarding **claim 13**, the further limitation of claim 11, see the preceding argument with respect to claim 3. The combination of So and Key teaches a wireless connection.

33. Regarding **claim 14**, the further limitation of claim 11, see the preceding argument with respect to claim 6. The combination of So and Key teaches the feature of adjusting the rate until a known character is recognized.

Art Unit: 2615

34. Regarding **claim 15**, the further limitation of claim 11, see the preceding argument with respect to claim 7. The combination of So and Key inherently teaches storage devices in the portable audio device.

35. Regarding **claim 16**, the further limitation of claim 11, see the preceding argument with respect to claim 8. The combination of So and Key inherently teaches display devices in the portable audio device.

36. Regarding **claim 17**, the further limitation of claim 11, see the preceding argument with respect to claim 9. The combination of So and Key teaches the delivery of power to a peripheral device.

37. **Claim 18** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of So and Key as applied to claim 11 above, and further in view of Goldstein.

38. Regarding **claim 18**, the further limitation of claim 11, see Goldstein

*... wherein the step of confirming a valid communication link further comprises:
transmitting a reply character from the portable audio player to the peripheral device at the peripheral device bit rate; and (Col. 2, lines 15-21)
in response to the peripheral device recognizing the reply character, confirming a valid communication link. (Col. 2, lines 21-26)*

The combination of So and Key teaches a portable audio device with the features of claim 11, however the combination does not teach a validation step. Goldstein teaches a method of identifying older, slower transmission rates with newer modems, and this method includes a confirmation step. It would have been obvious for one of ordinary skill in the art to combine the teachings of So, Key, and Goldstein for the purpose of providing backward compatibility with transmission standards.

39. **Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Key and Goldstein.

40. Regarding **claim 19**, see Key

A method for establishing a bi-directional communication link between a host device associated with a first bit rate and a peripheral device associated with a second bit rate, the method comprising:
at the host device, receiving a known character from the peripheral device at the second bit rate;
(Col. 2, lines 5-15)
in response to the host device not recognizing the known character,
adjusting the first bit rate; and (Col. 2, lines 16-24)
repeating the receiving and adjusting steps until the host recognizes the known character
thereby indicating that the adjusted first bit rate matches the second bit rate;
(Col. 2, lines 24-26)
in response to the host device recognizing the known character,
transmitting a reply character at the adjusted first bit rate to the peripheral device to
confirm a valid bi-directional communication link between the host device and the peripheral
device.

Key teaches a method of automatically adjusting the baud rate of a transmission link during initiation. Key does not teach the step of transmitting a reply character.

Goldstein teaches a method of providing backward compatibility for modems, wherein known characters and reply characters are used to confirm a valid link. It would have been obvious for one of ordinary skill in the art to combine the teachings of Key and Goldstein for the purpose of backward compatibility in establishing a communication link.

41. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over So as applied to claim 1 above, and further in view of Samson, CIPO 2,223,698.

42. Regarding **claim 22**, see the preceding argument with respect to claim 1. So teaches these features except for a USB communication port. Samson teaches a USB

Art Unit: 2615

modem (Fig. 1). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of So and Samson for the purpose of providing many bi-directional communication links. Samson teaches that the USB connection allows multiple connections to be made each associated with a phone line, which allows multiple phone lines to be operational simultaneously (see paragraph labeled Specification, p.3).

43. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over So as applied to claim 1 above, and further in view of Thornton et al., USPN 5,408,614 (hereinafter Thornton).

44. Regarding **claim 23**, see the preceding argument with respect to claim 1. So teaches these features except for an enhanced parallel port (EPP). Thornton teaches an adapter for use with an external modem (Col. 1, line 51 - Col. 2, line 5 and Col. 2, lines 14-20 and lines 49-52). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of So and Thornton for the purpose of greater flexibility. Thornton teaches that a limited amount of serial ports may be accessible and expansion card slots may also be limited, so a parallel port interface is needed.

45. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of So and Samson as applied to claim 22 above, and further in view of Kwon et al., USPN 6,430,635 (hereinafter Kwon).

46. Regarding **claim 24**, the combination of So and Samson teaches a USB modem with the features of claim 1. However, the combination does not teach an IEEE 1394 (firewire) communications port. Kwon teaches a firewire port, and teaches that a firewire port is faster than USB (Col. 1, lines 34-52). One skilled in the art at the time of the invention would have found it obvious to modify a USB modem to interface via firewire to benefit from faster communication speeds. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of So, Samson, and Kwon for the purpose of faster transmission.

Allowable Subject Matter

47. **Claim 26** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

48. Regarding **claim 26**, the prior art discussed does not teach a bi-directional communications port between a portable audio player and a pulse rate monitor, wherein a processor determines a bit rate associated with communications from the pulse rate monitor.

Further, Sham et al. (pertinent non-cited) teaches a pulse rate monitor, or a heart rate monitor, that communicates wirelessly with a pedometer. There is no teaching that the pulse rate monitor receives any signals, and therefore it is not a bi-directional communications port.

Conclusion

49. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Maxwell et al., USPN 4,771,417;

Dabbs, III et al., USPN 5,293,484;

Arai et al., USPN 5,706,353;

Sham et al., USPN 5,891,042;

Ogawa et al., USPN 6,271,984;

Holmes et al., USPN 6,636,749;

Juszkiewicz et al., USPN 6,686,530; and

Niehoff et al., USPN 6,763,253.

50. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 2615

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel R. Sellers whose telephone number is 571-272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571)272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DRS


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